




Innovation in Spirometry Oximetry Telemedicine

Measuring our breath: important as measuring our body temperature

 riginally - for Greek and Latin - the words Spirit and Breath mean exactly one and the same. Breath is the key to our biology as well as our spiritual nature. The entire animal kingdom, and the vegetable also, must breath in order to live.

Measuring our breath is just as important as measuring our body temperature!

A simple parameter, **FEV1**, is considered the most indicative measure of lung function. Using a spirometer FEV1 measures the amount of air you can blow out within one second. Few people are aware that **even healthy subjects** can suffer from temporary airway inflammation due to infections such as influenza, acute bronchitis, pneumonia and other respiratory viral infections (including colds). Additionally, in more than 60% of subjects this causes a dramatic reduction in pulmonary function (1-2).

In practice, the value of FEV1 can reduce up to 20% compared to the values measured under normal conditions (*1-2).

Most suprisingly, the full recovery of lung function, and return to normal values of FEV1, can take a long time, generally from a minimum of 5 weeks to several months (*1).

Furthermore, in some particularly aggressive cases of influenza, a full recovery of lung function can take up to a year (*3).

Some subjects, despite not being asthmatic, may suffer from bronchial hyperresponsiveness with episodes of bronchospasm altogether similar to those which occur with asthma (*4).

Recent studies suggest that cases not treated properly can evolve from acute bronchitis into a chronic inflammation typical of asthma (*1).



The logical conclusions drawn from the above are as follows:

- **A spirometer to measure FEV1 is as essential as a thermometer to measure fever**
- **FEV 1 measurements help to maintain a better state of health**
- **FEV 1 measurements help to ensure full recovery from a respiratory infection**
- **FEV 1 measurements help to prevent asthma**

1. * - Acute Bronchitis. Hueston WJ, Mainous AG. Am Fam Physician. 1998 15; 57(6): 1270-1276.
2. * - Pulmonary function tests in acute bronchitis: evidence for reversible airway obstruction. Williamson HA. J Fam Pract. 1987; 24:35-8.
3. * - Pulmonary Function and Clinical Manifestations of Patients Infected with Mild Influenza A Virus Subtype H1N1: A One-Year Follow-up. Liu W, Peng L, Hua S. PLoS ONE 10 (7): e0133698. Doi: 10.1371/journal.pone.0133698
4. * - Respiratory infections and Acute Respiratory Distress Syndrome. From Gibson GJ. 3rd edition. London: Hodder Arnold; 2009. Clinical tests of respiratory function



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